ORDER NO. SD82032140C8

Service Manual

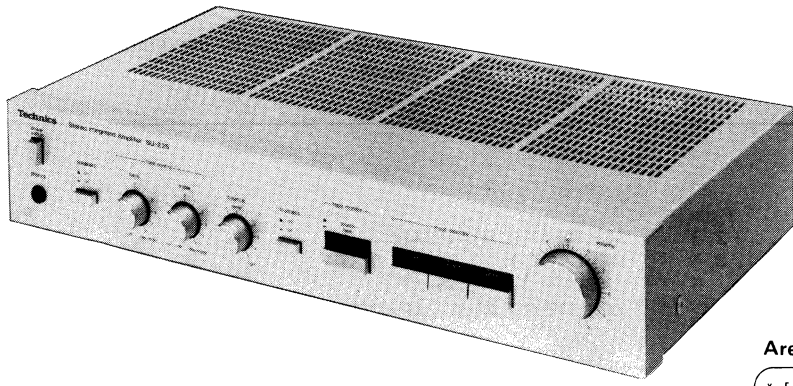
Stereo Integrated Amplifier

SU-Z25

[E],[EG],[EK],[EH],[Ei],
[EB],[EF],[XA],[XL]

SU-Z25(K)

[E],[EG],[EH],[Ei]



* The cabinet and front panel are available in black color and silver types.
* The black type model is provided with (K) in the Service Manual.

Areas

* [E] is available in Switzerland and Scandinavia.
* [EG] is available in F. R. Germany.
* [EK] is available in United Kingdom.
* [EH] is available in Holland.
* [Ei] is available in Italy.
* [EB] is available in Belgium.
* [EF] is available in France.
* [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.
* [XL] is available in Australia.

Specifications

(Specifications are subject to change without notice for further improvement.)

(DIN 45 500)

■ AMPLIFIER SECTION

20 Hz~20 kHz continuous power output	
both channels driven	2 × 25W (4Ω)
	2 × 25W (8Ω)
40 Hz~16 kHz continuous power output	
both channels driven	2 × 25W (4Ω)
	2 × 25W (8Ω)
1 kHz continuous power output	
both channels driven	2 × 30W (4Ω)
	2 × 30W (8Ω)
Total harmonic distortion	
rated power at 20 Hz~20 kHz	0.05% (4Ω)
	0.03% (8Ω)
rated power at 40 Hz~16 kHz	0.05% (4Ω)
	0.03% (8Ω)
rated power at 1 kHz	0.01% (4Ω)
	0.005% (8Ω)
half power at 20 Hz~20 kHz	0.03% (8Ω)
half power at 1 kHz	0.005% (8Ω)
−26 dB power at 1 kHz	0.01% (4Ω)
50 mW power at 1 kHz	0.01% (4Ω)
Intermodulation distortion	
rated power at 250 Hz: 8 kHz=4:1, 4Ω	0.05%
rated power at 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0.03%
Power bandwidth	
both channels driven, −3 dB	10 Hz~25 kHz (4Ω)
	10 Hz~25 kHz (8Ω)
Residual hum and noise	0.6 mV
Damping factor	20 (4Ω), 40 (8Ω)

Input sensitivity and impedance	
PHONO	2.5 mV/47kΩ
TUNER, AUX	150 mV/22kΩ
TAPE	150 mV/22kΩ
PHONO maximum input voltage (1 kHz, RMS)	150 mV
S/N	
rated power (4Ω)	
PHONO	73 dB (IHF, A: 78 dB)
TUNER, AUX, TAPE	86 dB (IHF, A: 97 dB)
−26 dB power (4Ω)	
PHONO	65 dB
TUNER, AUX, TAPE	65 dB
50 mW power (4Ω)	
PHONO	62 dB
TUNER, AUX, TAPE	62 dB
Frequency response	
PHONO	RIAA standard curve
	±0.8 dB (30 Hz~15 kHz)
TUNER, AUX, TAPE	5 Hz~80 kHz (−3 dB)
Tone controls	
BASS	50 Hz, +10 dB~ −10 dB
TREBLE	20 kHz, +10 dB~ −10 dB
Loudness control (volume at −30 dB)	50 Hz, +9 dB
Output voltage	
REC OUT	150 mV
Channel balance, AUX 250 Hz~6,300 Hz	±1 dB
Channel separation, AUX 1 kHz	50 dB
Headphones output level and impedance	340 mV/330Ω
Load impedance	4Ω~16Ω

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

SU-Z25

■ GENERAL

Power consumption	260W
Power supply	AC 50 Hz/60 Hz, 220V (For continental Europe) AC 50 Hz/60 Hz, 240V (For United Kingdom and Australia) AC 50 Hz/60 Hz, 110V/120V/220V/240V (For others)
Dimensions (W×H×D)	430 × 86 × 252 mm (16-15/16" × 3-3/8" × 9-15/16")
Weight	4.8 kg (10.6 lb.)

Note:
Total harmonic distortion is measured by the digital spectrum analyzer (H.P. 3045 system).

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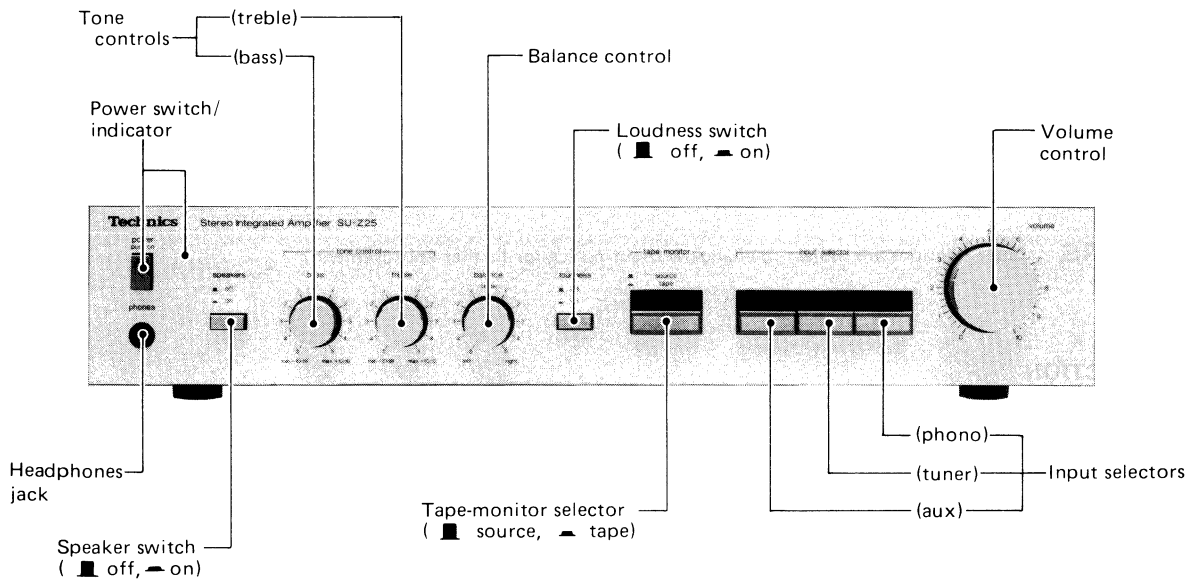
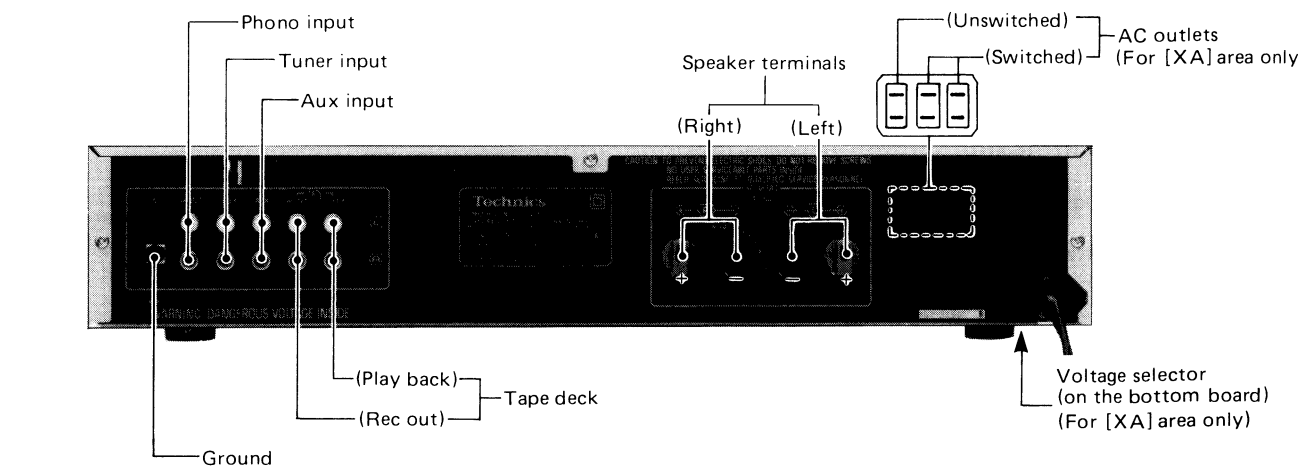
■ LOCATION OF CONTROLS





- The power supply for this unit varies depending upon the areas. Also, the parts used for power supply are different. So, refer to the circuit diagram and the replacement parts list.

* 220V (50/60Hz) for continental Europe.
* 240V (50/60Hz) for United Kingdom and Australia.
* 110V/120V/220V/240V (50/60Hz) for other areas.
– [XA area] for other areas is provided with voltage selector and AC outlets.
* Phono input capacitance is about 150pF.

ORDER NO. SD82032140C8–A

Stereo Integrated Amplifier SU-Z25/SU-Z25(K)

This booklet contains the specifications for SU-Z25, written in Germany, French and Spanish, and the circuits to be changed according to the areas.
File this manual together with the SU-Z25 service manual (Order No. SD82032140C8).

DEUTSCH

■ TECHNISCHE DATEN (Spezifikationen Können infolge von Verbesserungen ohne Ankündigung geändert werden.)

(DIN 45 500)

■ VERSTÄRKERTEIL

Dauerton-Ausgangsleistung bei 20 Hz ~ 20 kHz	
beide Kanäle ausgesteuert	2 × 25W (4 Ω)
	2 × 25W (8 Ω)
Dauerton-Ausgangsleistung bei 40 Hz ~ 16 kHz	
beide Kanäle ausgesteuert	2 × 25W (4 Ω)
	2 × 25W (8 Ω)
Dauerton-Ausgangsleistung bei 1 kHz	
beide Kanäle ausgesteuert	2 × 30W (4 Ω)
	2 × 30W (8 Ω)
Gesamtklirrfaktor	
Nennleistung bei 20 Hz ~ 20 kHz	0,05% (4 Ω)
	0,03% (8 Ω)
Nennleistung bei 40 Hz ~ 16 kHz	0,05% (4 Ω)
	0,03% (8 Ω)
Nennleistung bei 1 kHz	0,01% (4 Ω)
	0,005% (8 Ω)
halbe Nennleistung bei 20 Hz ~ 20 kHz	0,03% (8 Ω)
halbe Nennleistung bei 1 kHz	0,005% (8 Ω)
−26 dB Leistung bei 1 kHz	0,01% (4 Ω)
50 mW Leistung bei 1 kHz	0,01% (4 Ω)
Intermodulationsfaktor	
Nennleistung bei 250 Hz: 8 kHz = 4:1, 4 Ω	0,05%
Nennleistung bei 60 Hz: 7 kHz = 4:1, nach SMPTE, 8 Ω	0,03%
Leistungsbandbreite	
beide Kanäle ausgesteuert bei −3 dB	
	10 Hz ~ 25 kHz (4 Ω)
	10 Hz ~ 25 kHz (8 Ω)
Restbrumm und Geräusch	0,6 mV
Dämpfungsfaktor	20 (4 Ω), 40 (8 Ω)
Eingangsempfindlichkeit und -impedanz	
Phono	2,5 mV/47 kΩ
Tuner, Aux	150 mV/22 kΩ
Tape	150 mV/22 kΩ
Maximale TA-Eingangsspannung (1 kHz, eff.)	150 mV
Frequenzgang	
Phono	RIAA-Standardkurve
	±0,8 dB (30 Hz ~ 15 kHz)
Tuner, Aux, Tape	5 Hz ~ 80 kHz (−3 dB)
Geräuschabstand	
Nennleistung (4 Ω)	
Phono	73 dB (nach IHF, A: 78 dB)
Tuner, Aux, Tape	86 dB (nach IHF, A: 97 dB)
−26 dB Leistung (4 Ω)	
Phono	65 dB
Tuner, Aux, Tape	65 dB
50 mW Leistung (4 Ω)	
Phono	62 dB
Tuner, Aux, Tape	62 dB
Klangregler	
Baßregler (BASS)	50 Hz, +10 dB ~ −10 dB
Höhenregler (TREBLE)	20 kHz, +10 dB ~ −10 dB
Gehörrichtige Lautstärkekorrektur (Loudness)	
(bei −30 dB Ausgangsleistung)	50 Hz, +9 dB
Ausgangsspannung	
Aufnahmeausgang (REC OUT)	150 mV
Kanalabweichung (Aux, 250 Hz ~ 6300 Hz)	±1 dB
Übersprechdämpfung (Aux, 1 kHz)	50 dB
Kopfhörerpegel und -impedanz	340 mV/330 Ω
Lautsprecherimpedanz	4 Ω ~ 16 Ω

■ ALLGEMEINE DATEN

Leistungsaufnahme	260 W
Netzspannung	
	Wechselstrom 50Hz/60Hz, 220V
	(Für Kontinentaleuropa)
	Wechselstrom 50Hz/60Hz, 110V/120V/220V/240V
	(Für andere Länder)
Abmessungen (B×H×T)	430 × 86 × 252 mm
Gewicht	4,8 kg

Bemerkung:
Der Gesamtklirrfaktor wurde mit einem digitalen Rauschspektrometer (Anlage H.P. 3045) gemessen.

FRANÇAIS

■ CARACTERISTIQUES (Sujet á changement sans préaris.)

(DIN 45 500)

■ SECTION AMPLIFICATEUR

Puissance de sortie continue de 20 Hz~20 kHz,	
les deux canaux en circuit	2 × 25W (4Ω)
	2 × 25W (8Ω)
Puissance de sortie continue de 40 Hz~16 kHz,	
les deux canaux en circuit	2 × 25W (4Ω)
	2 × 25W (8Ω)
Puissance de sortie continue à 1 kHz	
les deux canaux en circuit	2 × 30W (4Ω)
	2 × 30W (8Ω)
Distorsion harmonique totale	
à puissance nominale (20 Hz~20 kHz)	0,05% (4Ω)
	0,03% (8Ω)
à puissance nominale (40 Hz~16 kHz)	0,05% (4Ω)
	0,03% (8Ω)
à puissance nominale (1 kHz)	0,01% (4Ω)
	0,005% (8Ω)
à demi-puissance (20 Hz~20 kHz)	0,03% (8Ω)
à demi-puissance (1 kHz)	0,005% (8Ω)
puissance de −26 dB à 1 kHz	0,01% (4Ω)
puissance de 50 mW à 1 kHz	0,01% (4Ω)
Distorsion d'intermodulation	
à puissance nominale à 250 Hz: 8 kHz=4:1, 4Ω	0,05%
à puissance nominale à 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0,03%
Réponse de fréquences	
les deux canaux en circuit, −3 dB	10 Hz~25 kHz (4Ω)
	10 Hz~25 kHz (8Ω)
Bruit et ronflement résiduels	0,6 mV
Coefficient d'amortissement	20 (4Ω), 40 (8Ω)
Sensibilité et impédance d'entrée	
PHONO	2,5 mV/47kΩ
SYNTONISATEUR, AUX (TUNER, AUX)	150 mV/22kΩ
BANDE (TAPE)	150 mV/22kΩ
PHONO (tension d'entrée maximum, 1 kHz RMS)	150 mV
Réponse de fréquence	
PHONO	Courbe nominale RIAA
	±0,8 dB (30 Hz~15 kHz)
SYNTONISATEUR, AUX, BANDE (TUNER, AUX, TAPE)	5 Hz~80 kHz (−3 dB)
Signal/Bruit	
à puissance nominale (4Ω)	
PHONO	73 dB (IHF, A: 78 dB)
SYNTONISATEUR, AUX, BANDE (TUNER, AUX, TAPE)	86 dB (IHF, A: 97 dB)
puissance de −26 dB (4Ω)	
PHONO	65 dB
SYNTONISATEUR, AUX, BANDE (TUNER, AUX, TAPE)	65 dB
puissance de 50 mW (4Ω)	
PHONO	62 dB
SYNTONISATEUR, AUX, BANDE (TUNER, AUX, TAPE)	62 dB
Réglage de la tonalité	
BASSES (BASS)	50 Hz, +10 dB~ −10 dB
AIGUS (TREBLE)	20 kHz, +10 dB~ −10 dB
Compensateur physiologique (volume à −30 dB)	50 Hz, +9 dB
Tension de sortie	
SORTIE ENREGISTREMENT (REC OUT)	150 mV
Equilibrage des canaux, AUX 250 Hz~6 300 Hz	±1 dB
Séparation des canaux, AUX 1 kHz	50 dB
Niveau de sortie des casques et impédance	340 mV/330Ω
Impédance de charge	4Ω~16Ω

■ DIVERS

Consommation	260W
Alimentation	CA 50 Hz/60 Hz, 220V (Pour l'Europe)
	CA 50Hz/60Hz, 110V/120V/220V/240V (Autres)
Dimensions (L × H × Pr)	430 × 86 × 252 mm
Poids	4,8 kg

Remarque:
On mesure la distorsion harmonique totale au moyen d'un analyseur de spectre digital (Système H.P. 3045).

ESPAÑOL

■ ESPECIFICACIONES (Estas especificaciones están sujetas a cualquier cambio sin previo eviso.)

(DIN 45 500)

■ SECCION AMPLIFICADOR

Potencia continua de 20 Hz~20 kHz	
en ambos canales	2 × 25W (4Ω)
	2 × 25W (8Ω)
Potencia continua de 40 Hz~16 kHz	
en ambos canales	2 × 25W (4Ω)
	2 × 25W (8Ω)
Potencia continua de 1 kHz	
en ambos canales	2 × 30W (4Ω)
	2 × 30W (8Ω)
Distorsión armónica total	
potencia de régimen a 20 Hz~20 kHz	0,05% (4Ω)
	0,03% (8Ω)
potencia de régimen a 40 Hz~16 kHz	0,05% (4Ω)
	0,03% (8Ω)
potencia de régimen a 1 kHz	0,01% (4Ω)
	0,005% (8Ω)
mitad de potencia a 20 Hz~20 kHz	0,03% (8Ω)
mitad de potencia a 1 kHz	0,005% (8Ω)
−26 dB de potencia a 1 kHz	0,01% (4Ω)
50 mW de potencia a 1 kHz	0,01% (4Ω)
Distorsión por intermodulación	
potencia de régimen a 250 Hz: 8 kHz=4:1, 4Ω	0,05%
potencia de régimen a 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0,03%
Ancho de banda de potencia	
con ambos canales, −3 dB	10 Hz~25 kHz (4Ω)
	10 Hz~25 kHz (8Ω)
Zumbido residual y ruido	0,6 mV
Factor de amortiguamiento	20 (4Ω), 40 (8Ω)
Sensibilidad e impedancia de entrada	
TOCADISC. (PHONO)	2,5 mV/47kΩ
SINTON., AUX. (TUNER, AUX)	150 mV/22kΩ
GRAB. (TAPE)	150 mV/22kΩ
Voltaje máximo de entrada de PHONO (1 kHz, RMS)	150 mV
Respuesta de frecuencia	
TOCADISC. (PHONO)	curva RIAA estándar
	±0,8 dB (30 Hz~15 kHz)
SINTON., AUX., GRAB. (TUNER, AUX, TAPE)	5 Hz~80 kHz (−3 dB)

Relación de señal a ruido	
potencia de régimen (4Ω)	
TOCADISC. (PHONO)	73 dB (IHF, A: 78 dB)
SINTON., AUX., GRAB. (TUNER, AUX, TAPE)	86 dB (IHF, A: 97 dB)
−26 dB de potencia (4Ω)	
TOCADISC. (PHONO)	65 dB
SINTON., AUX., GRAB. (TUNER, AUX, TAPE)	65 dB
50 mW de potencia (4Ω)	
TOCADISC. (PHONO)	62 dB
SINTON, AUX., GRAB. (TUNER, AUX, TAPE)	62 dB
Controles de tono	
BAJOS (BASS)	50 Hz, +10 dB~ −10 dB
AGUDOS (TREBLE)	20 kHz, +10 dB~ −10 dB
Control de sonoridad (volumen a −30 dB)	50 Hz, +9 dB
Voltaje de salida	
SAL. GRAB. (REC OUT)	150 mV
Equilibrio de canales, AUX 250 Hz~6 300 Hz	±1 dB
Separación de canales, AUX 1 kHz	50 dB
Impedancia y nivel de salida de los auriculares	340 mV/330Ω
Impedancia de carga	4Ω~16Ω

■ GENERAL

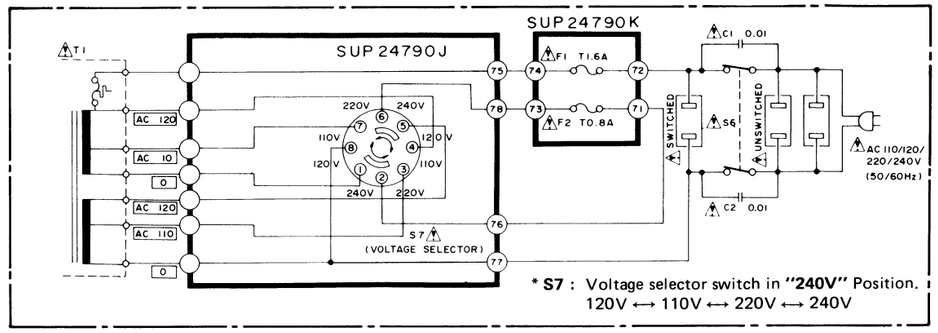
Consumo de energía	260W
Alimentación de energía	
	CA 50 Hz/60 Hz, 220V
	(Para Europa continental)
	CA 50Hz/60Hz, 110V/120V/220V/240V
	(Para otros países)
Dimensiones (An.×Al.×Prof.)	430 × 86 × 252 mm
Peso	4,8 kg

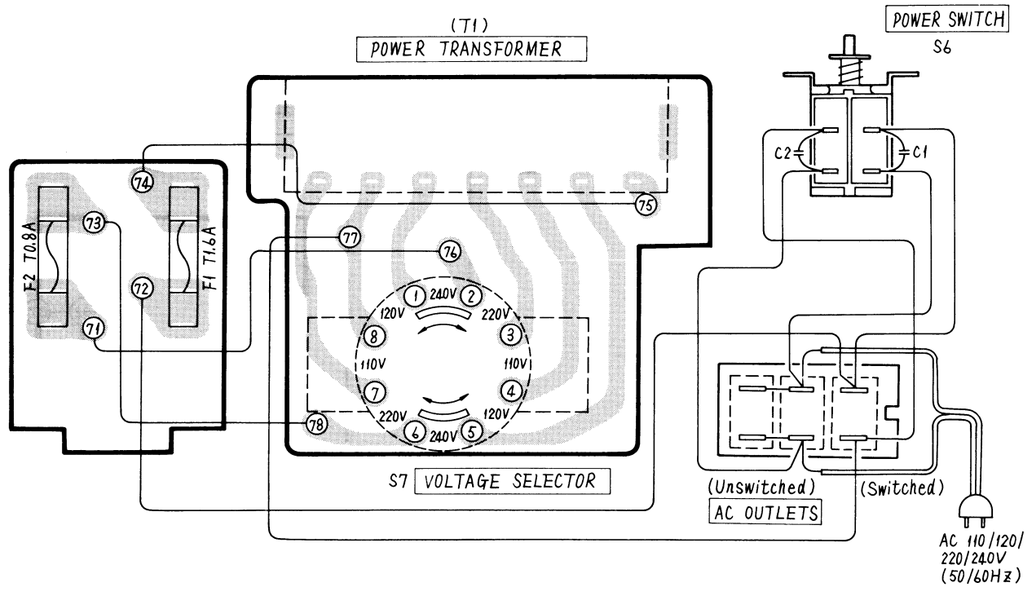
Nota:
La distorsión armónica total se mide con el analizador de espectro digital (sistema H.P. 3045).

■ CIRCUITS TO BE CHANGED AND THE AREAS

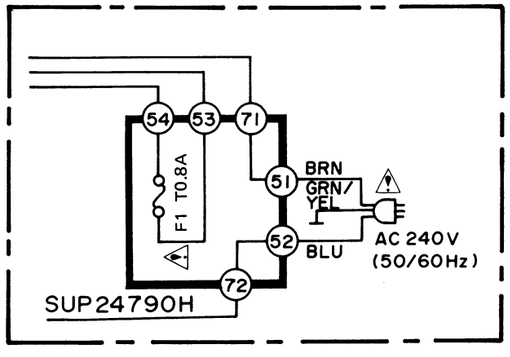
• Power source circuit for [XA] area.

* [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.

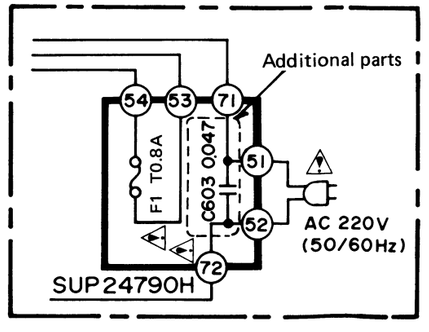




• Power source circuit for [XL] area.
(Australia)



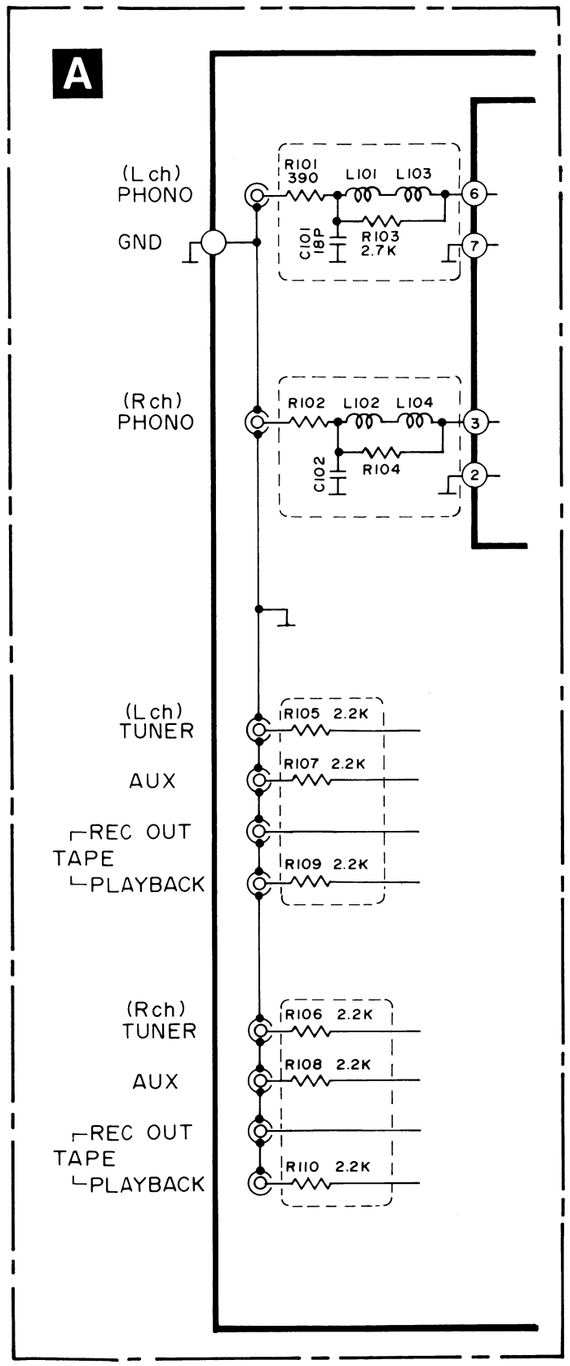
• Power source circuit for [EF] area.
(France)

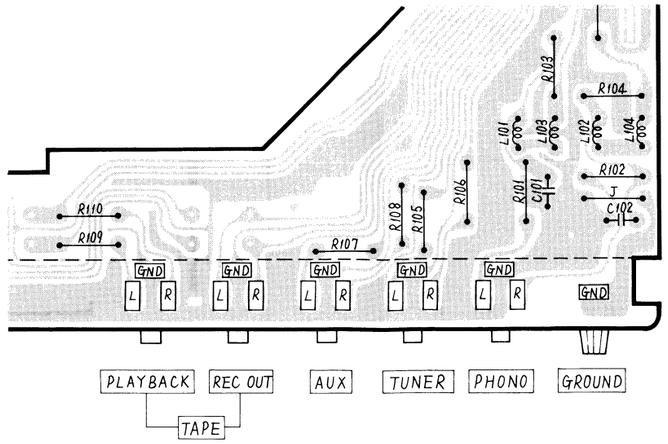


[EG] area only [EG] is available in F.R. Germany.

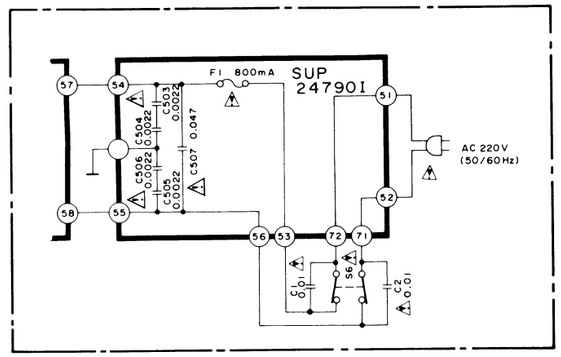
Additional parts

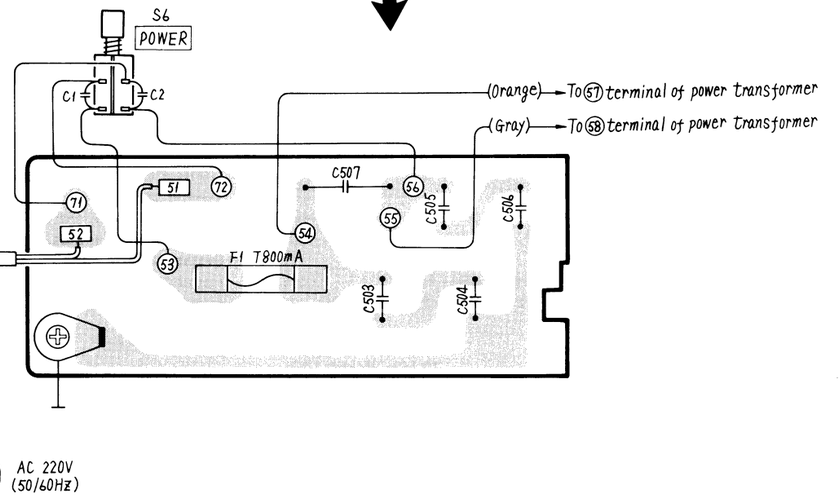
- **Input terminal circuit**



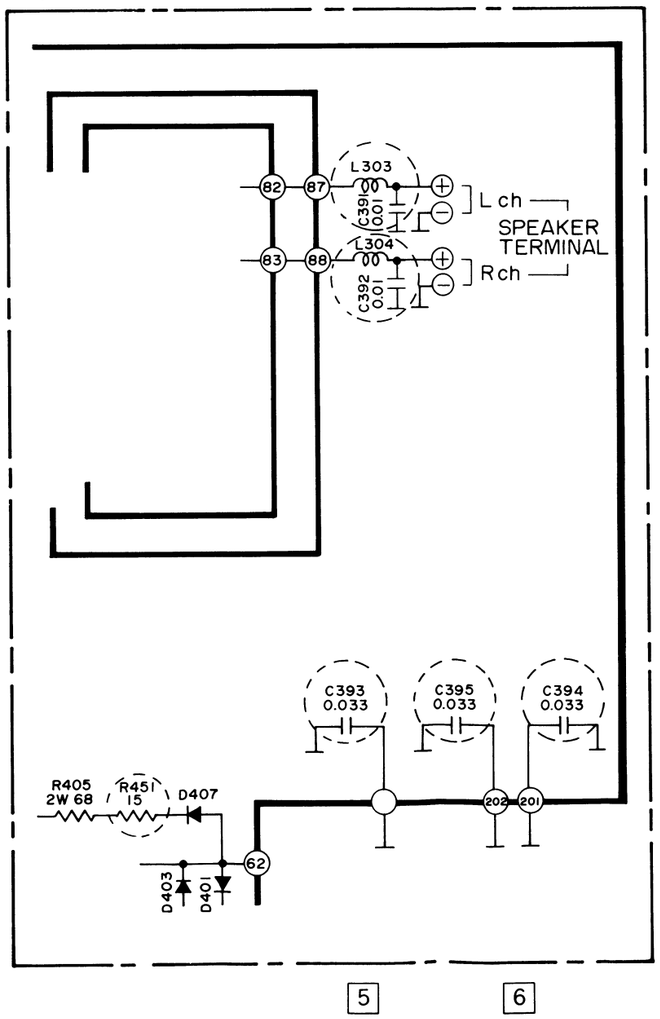


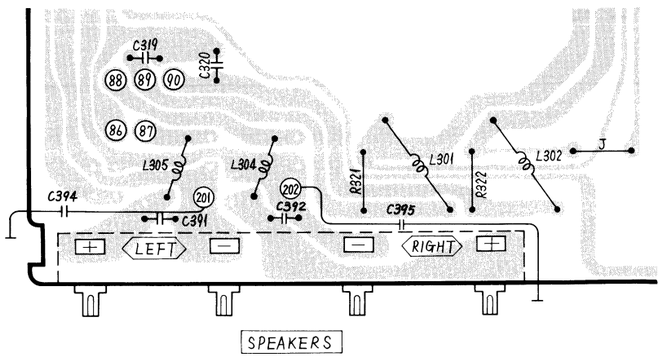
- **Power source circuit**





- **Speaker terminal and speaker ground circuit**



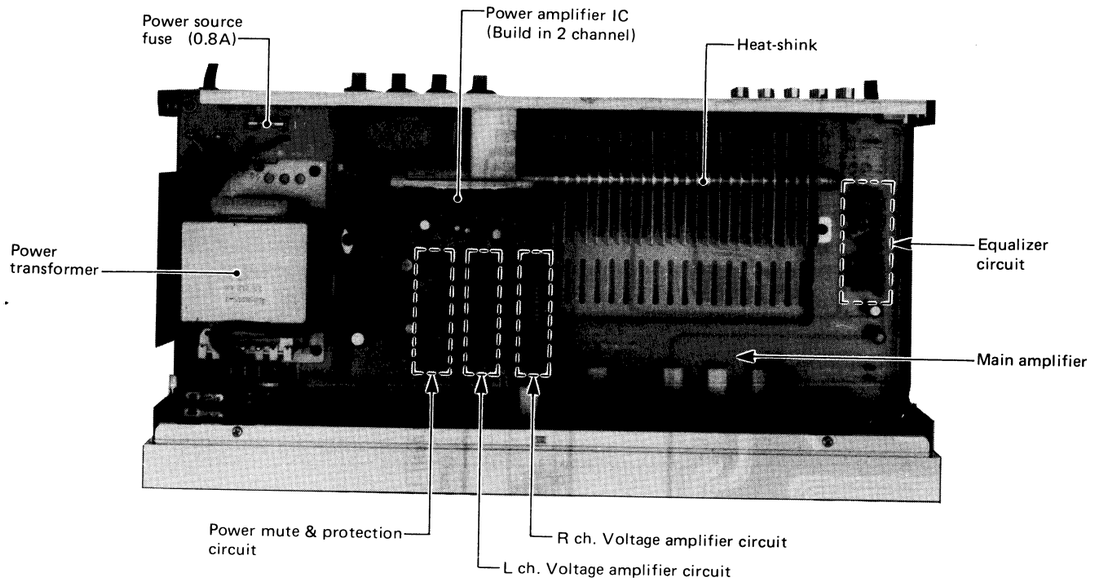


- **Volume control circuit**

Change of resistor value
R201, 202 (2.7kΩ → 1.2kΩ)

Deletion of capacitor
C203, 204 (470pF → Deletion)

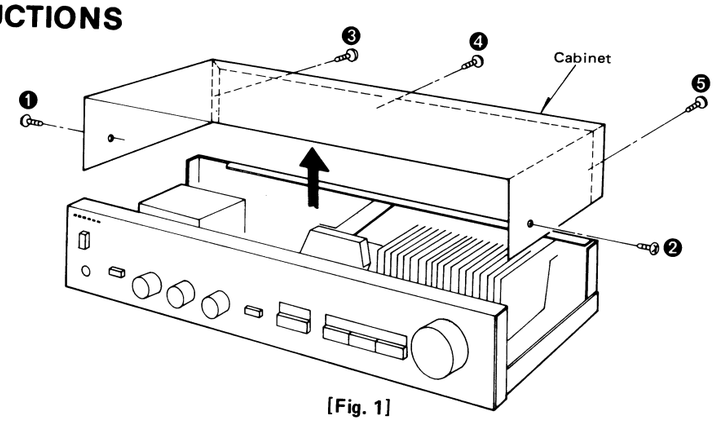
Printed in Japan
82039060 ® YK/IM



■ DISASSEMBLY INSTRUCTIONS

1. How to remove the cabinet

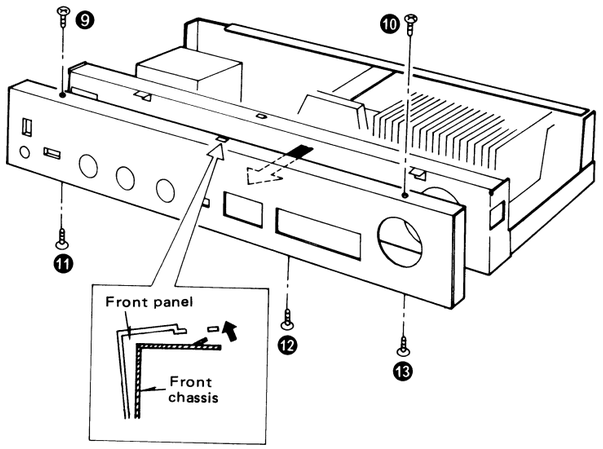
1. Remove the 2 setscrews (Fig. 1: ❶, ❷) on the side and 3 setscrews (Fig. 1: ❸ ~ ❺) on the back of the cabinet.
2. Remove the cabinet.



[Fig. 1]

2. How to remove the front panel

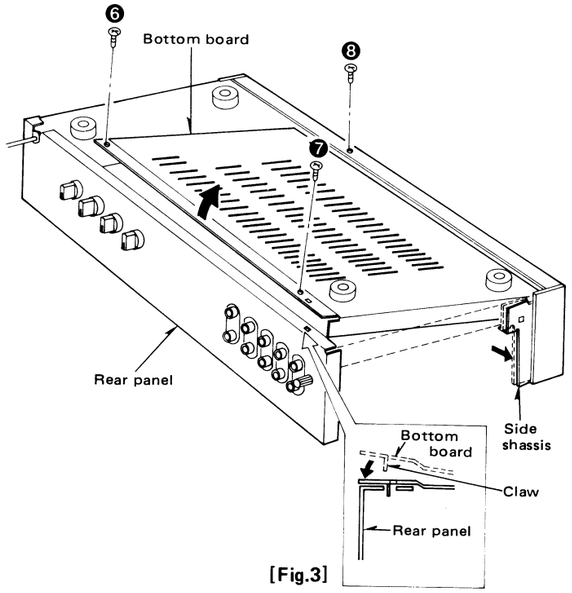
1. Remove the cabinet. (Refer to "How to remove the cabinet.)
2. Remove the 5 setscrews (Fig. 2: ❾ ~ ⓭) of the front panel. The center of the front panel is secured by the claw projected from the front chassis. So, release the front panel from the claw by using a screwdriver to remove it as shown in Fig. 2.



[Fig. 2]

3. How to the remove the bottom board

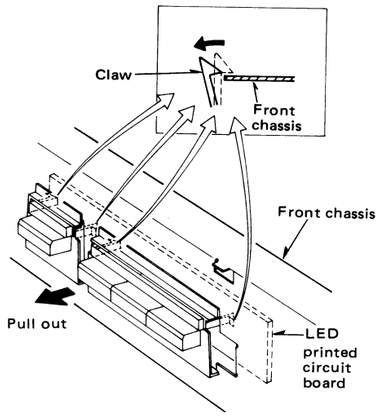
1. Remove the 3 setscrews (Fig. 3: ❻ ~ ❽) of the bottom board. Next, slightly widen side chassis to remove the bottom board in the direction of the arrow.
2. When fitting the bottom board, insert the claws of the bottom board into the holes in the rear panel before tightening the setscrews. (Fig. 3)



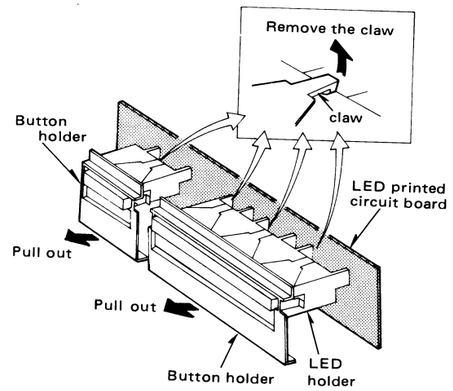
[Fig.3]

4. How to remove the input selector and tape monitor button.

1. Remove the cabinet and front panel. (Refer to "How to remove the cabinet" and "How to remove the front panel")
2. As in Fig. 4, release the 4 claws of the input selector and tape monitor button sleeves, then draw out the front panel. Next, the button sleeves can be removed by releasing the claw which fastens the LED holder. (Fig. 5)



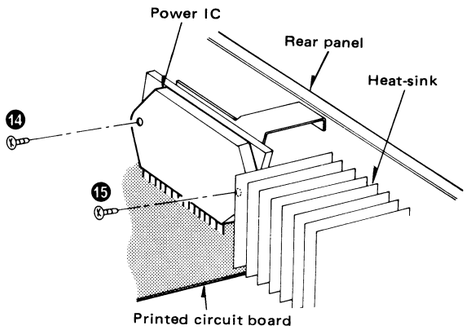
[Fig. 4]



[Fig. 5]

• How to remove the power IC

1. Remove the cabinet and bottom board. (Refer to "How to remove the cabinet" and "How to remove the bottom board")
2. Unsolder the power IC.
3. Remove the 2 setscrews (Fig. 6: ⓮, ⓯) used to secure the power IC on the heat-sink, and then pull out the power IC.
4. When installing the power IC, apply heat diffusing agent (silicon powder, etc.) to back side of the IC, and secure it on the heat-sink with setscrews.



[Fig. 6]

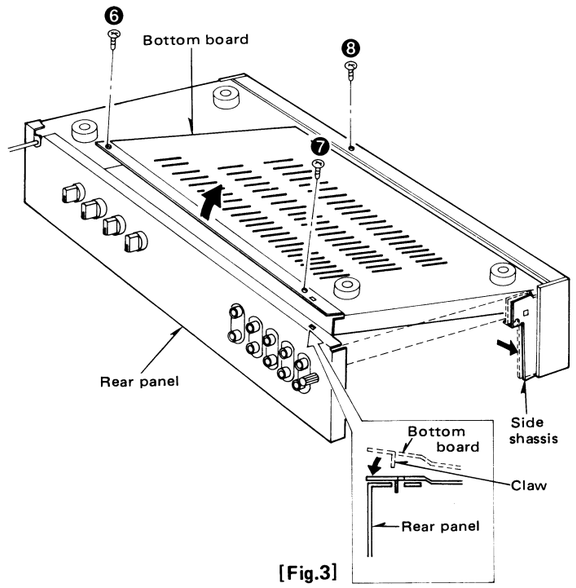
Equalizer circuit

Main amplifier

Cabinet

3. How to the remove the bottom board

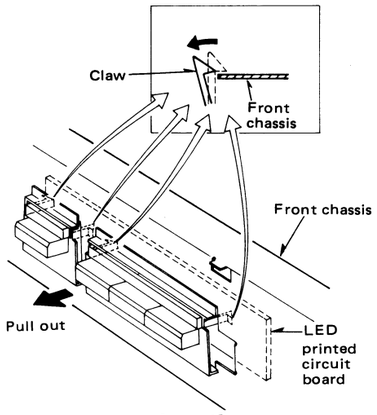
1. Remove the 3 setscrews (Fig. 3: ❻ ~ ❽) of the bottom board. Next, slightly widen side chassis to remove the bottom board in the direction of the arrow.
2. When fitting the bottom board, insert the claws of the bottom board into the holes in the rear panel before tightening the setscrews. (Fig. 3)



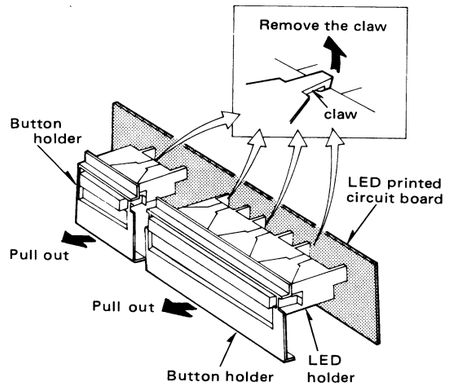
[Fig.3]

4. How to remove the input selector and tape monitor button.

1. Remove the cabinet and front panel. (Refer to "How to remove the cabinet" and "How to remove the front panel")
2. As in Fig. 4, release the 4 claws of the input selector and tape monitor button sleeves, then draw out the front panel. Next, the button sleeves can be removed by releasing the claw which fastens the LED holder. (Fig. 5)



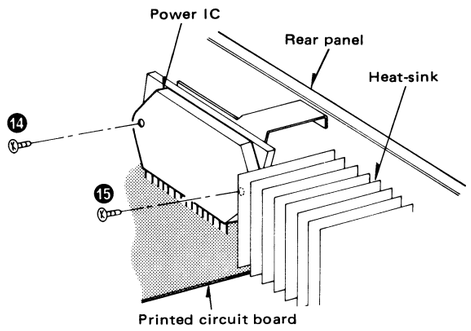
[Fig. 4]



[Fig. 5]

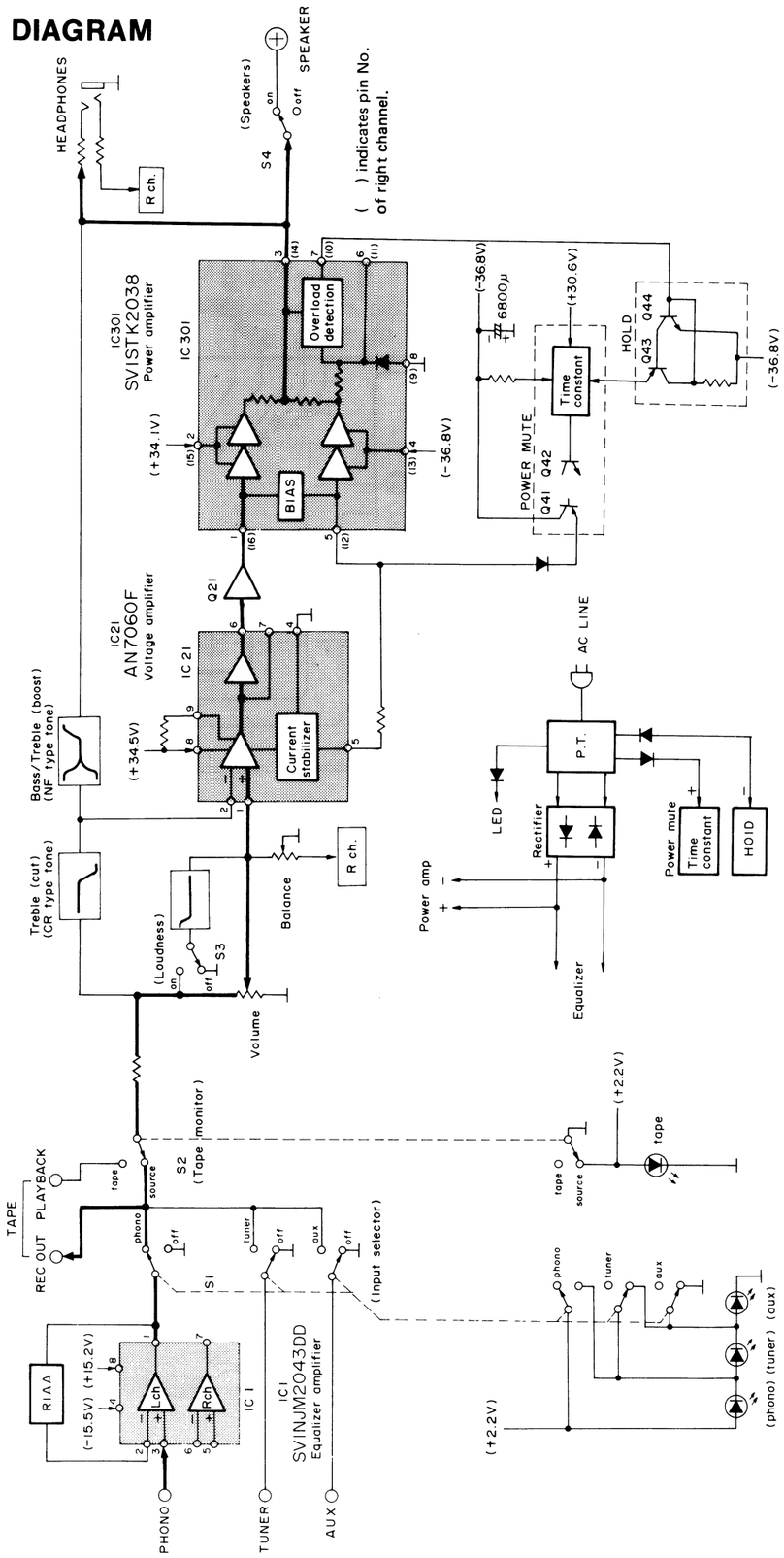
• How to remove the power IC

1. Remove the cabinet and bottom board. (Refer to "How to remove the cabinet" and "How to remove the bottom board")
2. Unsolder the power IC.
3. Remove the 2 setscrews (Fig. 6: ⓮ , ⓯) used to secure the power IC on the heat-sink, and then pull out the power IC.
4. When installing the power IC, apply heat diffusing agent (silicon powder, etc.) to back side of the IC, and secure it on the heat-sink with setscrews.



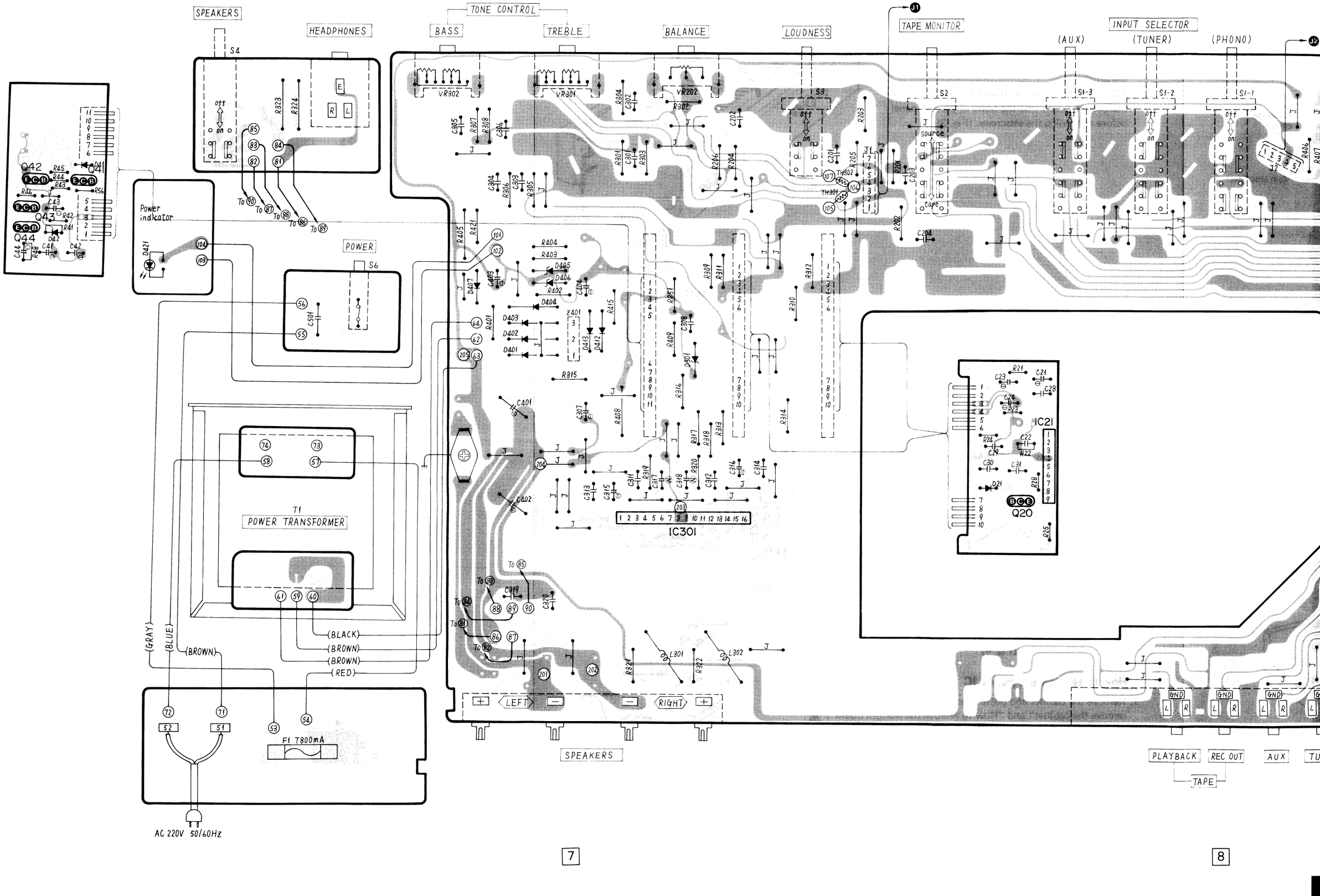
[Fig. 6]

■ BLOCK DIAGRAM

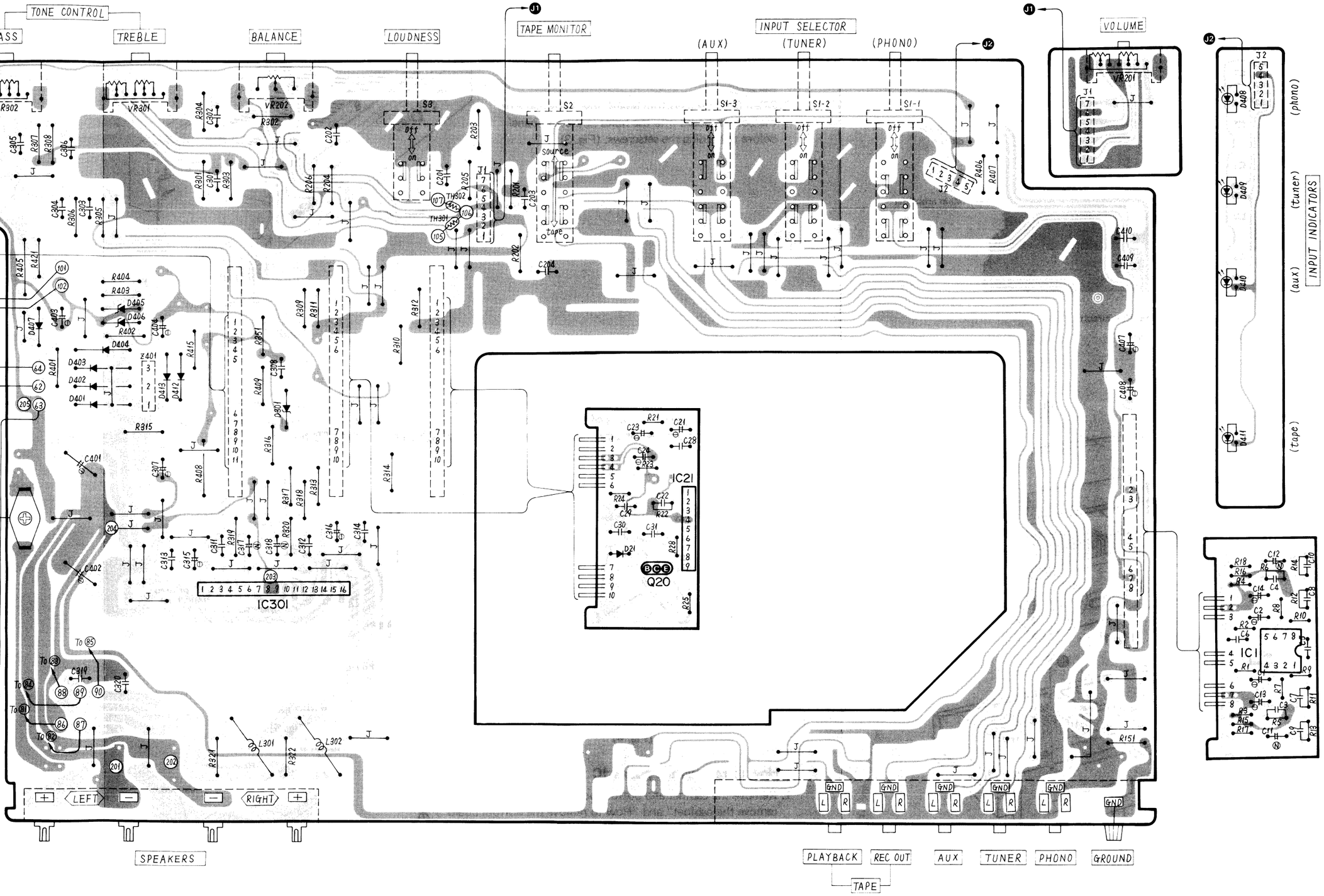


■ CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM

Ground (Earth) circuit



Ground (Earth) circuit



7

8

SUP 24790A

Equalizer circuit

IC 1
SVINJM4562DD
EQUALIZER AMP.

SUP 24310

Gain 36dB

SUP 24790B

Volume control

Balance control

Gain 40dB

Voltage amplifier circuit (L ch.) SUP24293

IC 21 AN7060F
VOLTAGE AMP.

Q 20 2SA1123 AMP.

D21 MA162A

Voltage amplifier circuit (R ch.)

Bass control

Treble control

SUP 24293

Loudness switch

Tape monitor

Input selector

S1 (INPUT SELECTOR)

S1-1 (PHONO)

S1-2 (TUNER)

S1-3 (AUX)

S2 (TAPE MONITOR)

S3 (LOUDNESS)

L ch
PHONO
GND
GROUND POINT (For F.R. Germany)
R ch
PHONO

L ch
TUNER
AUX
REC OUT
TAPE
PLAYBACK

R ch
TUNER
AUX
REC OUT
TAPE
PLAYBACK

J2

SUP24790C

D408 ~ 410 LN31GCPHL(U)

D411 LN41YCPHLMS

D405, 406 MA1150M

D301 SVDMZ306

D407, 412, 413 SVDSR1K2

D401 ~ 404 SVDS2V20

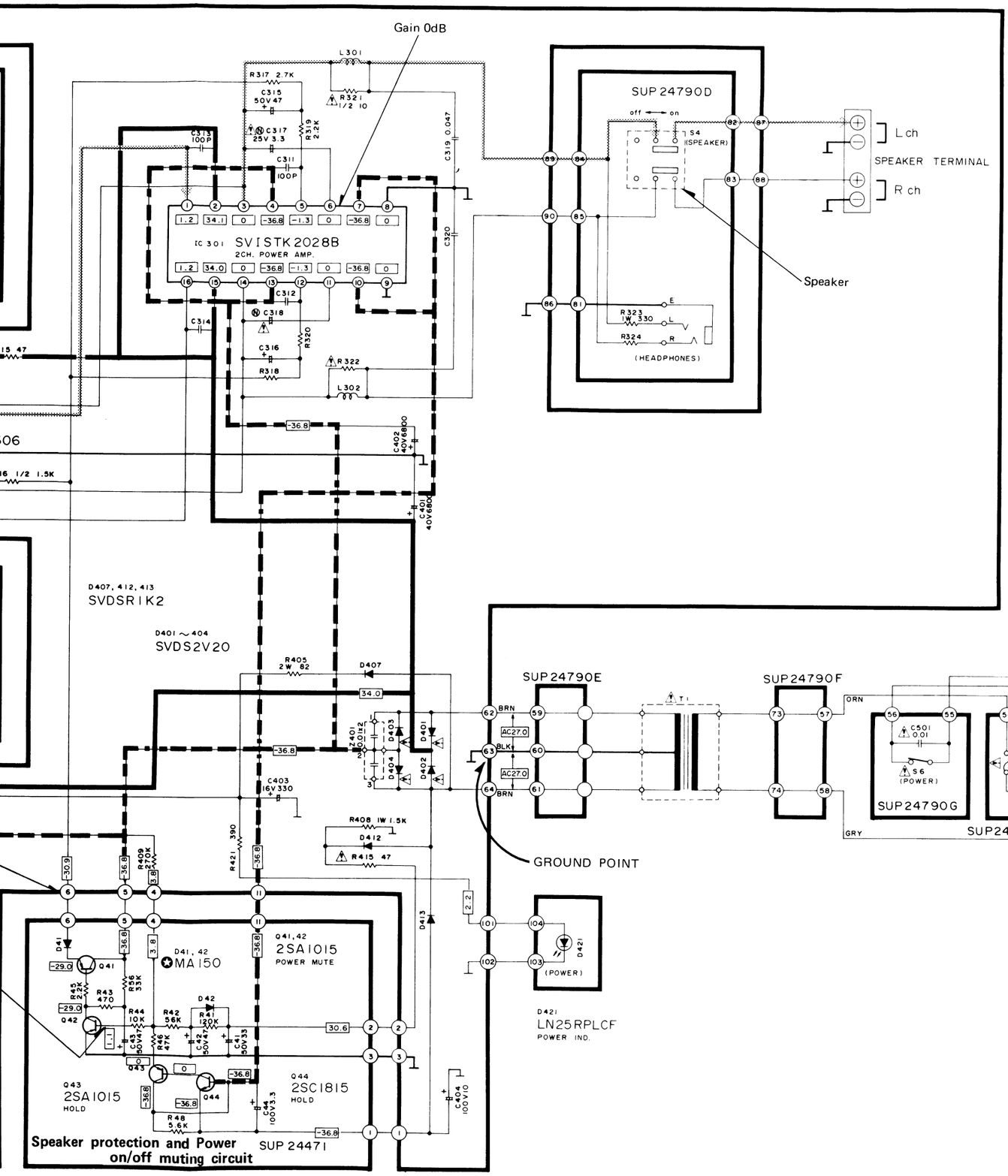
0V
−30.9V
2 ~ 3s
1.1V
0V
−0.7V
Power switch in "on"
Power switch in "off"

D41, 42 MA150

Q43 2SA1015 HOLD

Speaker protection and Power on/off muting circuit

SUP 2



10

■ SCHEMATIC DIAGRAM

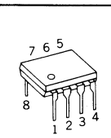
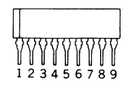
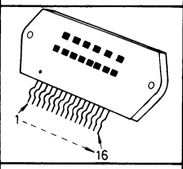
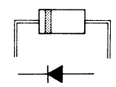
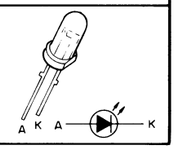
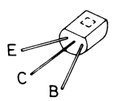
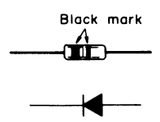
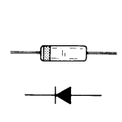
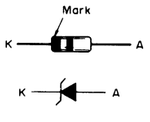
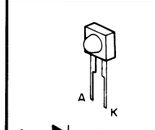
(This schematic diagram may be modified at any time with the development of new technology.)

* The part No. of transistors, IC and diodes mentioned in the schematic diagram stand for production part No. Regarding the part No. without ✪ mark, the production part No. are different from the replacement part No. Therefore, when placing an order for replacement parts, please use the part No. in the replacement parts list.

Notes:

1. This is the basic circuit diagram (For continental Europe) of this unit. Note that part of the circuit is subject to change depending on the areas.
2. Regarding the circuits to be changed in the basic circuit diagram (For continental Europe) and related areas [EG], [EF], [XL] and [XA], refer to the separate service manual (Order No. SD82032140C8–A).
3. **S1-1 ~ S1-3:** Input selector switch in **"phono"** position.
   [S1-1: phono, S1-2: tuner, S1-3: aux]
4. **S2:** Tape-monitor selector switch in **"source"** position.
   source ⟷ tape
5. **S3:** Loudness switch in **"off"** position.
   on ⟷ off
6. **S4:** Speaker switch in **"on"** position.
   on ⟷ off
7. **S6:** Power switch in **"on"** position.
8. **S7:** Voltage selector switch in **"240V"** position.
   (Product for South East Asia. Oceania, Africa, Middle Near East and Central South America [XA])
   120V ⟷ 110V ⟷ 220V ⟷ 240V
9. Same circuit is used for both L and R channels. For the resistance and capacity of R channel (lower of circuit diagram), refer to L channel. For the voltage value, refer to R channel.
10. ☐ Indicated voltage values are the standard values for the DC electronic circuit tester (high impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
11. ▒▒▒ Phono signal lines of left channel
12. ▬▶ Positive (+B) voltage lines.
13. ▬▬▶ Negative (–B) voltage lines.
14. Important safety notice:
    Component identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
15. **Description of "GROUND POINT"**
    The GND terminal of the rear panel and the chassis can serve as ground (earth) for signals. However, for direct current, they may sometimes fail to work as ground to check the DC voltage because they are connected to the ground line through 10Ω resistor – except for F.R. Germany [EG]. For DC voltage check, the "GROUND POINT" shown in "Printed circuit board" must be used.

• Terminal guide of transistors, IC's and diodes

SVINJM4562DD	AN7060F	SVISTK2028B	SVDMZ306	SVD2V20 , SVDSRIK2	LN3IGCPHL LN4IYCPHL
					
2SA1123 , 2SA1015 2SC1815	MA162A	MA150	MA1150M	LN25PR	
					

11

12

■ REPLACEMENT PARTS LIST

Notes: 1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. Important safety notice:
Componenys identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.
3. The "**S**" mark is service standard parts and may differ from production parts.
4. [K] — marked parts are used for black only, whole
○ — marked parts are for silver type only.
5. Parts other than [K] — and ○ — marked are used for both black and silver types.
6. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
7. The encircled numbers in the column of description stand for the quantity per set.

Black type model No. : SU-Z25 (K)

Ref. No.		Part No.	Description
INTEGRATED CIRCUITS			
IC1		SVINJM4562DD	Equalizer Amplifier
IC21		AN7060F	Differential Amplifier
IC301		SVISTK2028B	Power Amplifier
TRANSISTORS			
Q20(×2)	S	2SA1123-R	Pre Drive
Q41, 42, 43	S	2SA1015-Y	Regulator
Q44	S	2SC1815-Y	Muting
DIODES			
D21(×2)	S	MA162A	Switching
D41, 42	S	MA162A	Switching
D405, 406	S	MA1150A	15V, Zener
D301	S	RVDEQA0106S	6V, Zener
D401, 402, 403, 404	⚠	SVDS2V20	Rectifier
D408, 409, 410		LN31GCPHL	L.E.D.(Input Selector Ind.)
D411		LN41YCPHL	L.E.D.(Tape Monitor Ind.)
D412, 413, 407		SVDSR1K2	Rectifier
D421	S	LN25RP	L.E.D.(Power Ind.)
COILES			
L301, 302		SLQY15G-30	Choke
L303, 304〔EG〕only		SLQY07G-30	Choke
L101, 102, 103, 104 〔EG〕only		ELQS181KB	Choke
TRANSFORMERS			
T1〔EK, XL〕	⚠	SLT5M215-W	Power Transformer
T1〔XA〕	⚠	SLT5M217-W	Power Transformer
T1〔Other Areas〕	⚠	SLT5M213-W	Power Transformer
COMPONENT COMBINATION			
Z401		SXRFS203ZSM	Component Combination, 0.01μF×2
FUSE			
F1	⚠	XBA2C08TRO	250V, 800mA
VARIABLE RESISTORS			
VR201		EWCXSA020B15	Volume Control, 100kΩ(B)
VR202		EWHFNAF20G15	Balance Control, 100kΩ(G)
VR301		EWCS5AF20012	Treble Control,
VR302		EWCSWAF20C15	Bass Control, 100kΩ(C)
SWITCHES			
S1		SSH3033	Input Selector
S2		SSH1045	Tape Selector
S3		SSH165	Loudness
S4		SSH104	Speakers
S6〔E, EK〕	⚠	ESB822S	Power
S6〔XA, EG〕	⚠	ESB90217S	Power
S6〔Other Areas〕	⚠	SSH1057	Power
S7	⚠	ESB37219	Voltage Adjuster

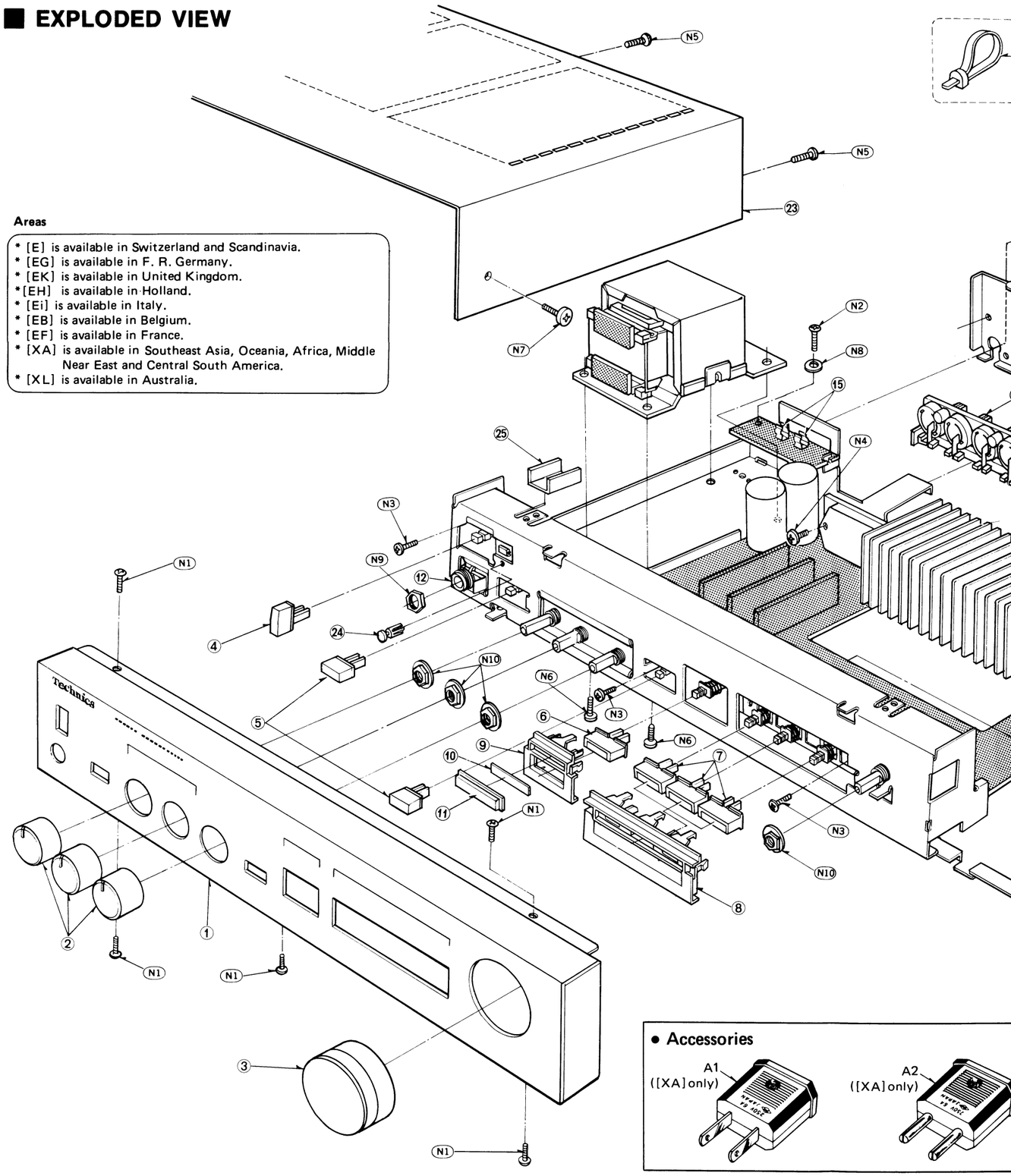
Ref. No.		Part No.	Description & Pcs	
CABINET and CHASSIS PARTS				
1	○	SYW571	Panel, Front A'ssy (Silver)	①
1	[K]	SYW571-1	Panel, Front A'ssy (Black)	①
2		SBN1113	Knob, Bass, Treble, Balance	③
3		SBN1125	Knob, Main	①
4		SBC337-1	Button, Power	①
5		SBC433-1	Button, Speaker, Loudness	②
6		SBC445	Button, Tape	①
7		SBC443	Button, Selector	③
8	○	SGXUZ45E	Holder (Silver)	①
8	[K]	SGXUZ45KE	Holder (Black)	①
9	○	SGX7329	Holder (Silver)	①
9	[K]	SGX7329-1	Holder (Black)	①
10		SDU129	Filter	①
11		SGU285	Transparent Plate	①
12		SJJ71B	Jack, Headphone	①
13		SKU9950	Bottom Board	①
14		SKL249	Foot	④
15		SJT347	Clip Fuse	②
16		SJF4433	Terminal Speaker	①
17		SJF3051-4N	Terminal Input	①
18		SMP323−1	Holder Tape	①
19		SMP321−1	Holder Selector	①
20	〔XA〕	SGP3150-1A	Panel, Rear	①
20	〔XL〕	SGP3150-2A	Panel, Rear	①
20	〔E〕	SGP3150A	Panel, Rear	①
20	〔EK〕	SGPUZ25E	Panel, Rear Ass'y	①
20	〔Other Areas〕	SGP3150B	Panel, Rear	①
21	〔EK〕 ⚠	QFC1205M	AC Cord	①
21	〔XA〕 ⚠	SJA111	AC Cord	①
21	〔XL〕 ⚠	QFC1207MA	AC Cord	①
21	〔Other Areas〕 ⚠	SJA88	AC Cord	①
22	〔EK〕	SHR129	Bushing, AC Cord	①
22	〔XL〕	SHR131	Bushing, AC Cord	①
22	〔Other Areas〕	SHR127	Bushing, AC Cord	①
23	○	SKC1050S1	Cabinet, (Silver)	①
23	[K]	SKC1050BB1	Cabinet, (Black)	①
24		SHR401-1	Latch	①
25	〔EG, XA〕	SMX453	Cover	①
25	〔Other Areas〕	SMX609	Cover	①
26	〔XA〕 ⚠ Only	SJS601-2	Socket	①
27		SHR301	Clamper	①

Ref. No.		Part No.	Description & Pcs	
SCREWS				
N1		XTBS3+8BFZ1	Tapping, ⊕3×8	⑩
N2	S	XTB3+10B	Tapping, ⊕3×10	④
N3	S	XSN3+6S	⊕3×6	④
N4	S	XTB3+16BFN	Tapping, ⊕3×16	②
N5	○ S	XTB3+8BFN	Tapping, ⊕3×8	③
N5	[K] S	XTB3+8BFZ	Tapping, ⊕3×8	③
N6	S	XTB4+10BFZ	Tapping, ⊕4×10	④
N7	○	SNE2095-2	Cabinet	②
N7	[K]	SNE2095-3	Cabinet	②
WASHERS				
N8		XWG3	Plain, ϕ3	⑤
NUTS				
N9		XNS12	ϕ12, Head Phone	①
N10		SNE4021	Volume, Tone Control	④
ACCESSORIES				
A1 〔XA〕⚠		SJP5213-1	Plug	①
A2 〔XA〕⚠		SJP5215	Plug	①
A4 〔E, EH, EB〕		SQF11201	Instructions Book	①
A4 〔EG〕		SQF11203	Instructions Book	①
A4 〔EK, XL〕		SQF11205	Instructions Book	①
A4 〔EF〕		SQF11207	Instructions Book	①
A4 〔XA〕		SQF11209	Instructions Book	①
A4 〔EI〕		SQF11361	Instructions Book	①
PACKING PARTS				
P1 〔EK〕	○	SPG3887	Carton Box	①
P1 〔EF〕	○	SPG3889	Carton Box	①
P1 〔EI〕	○	SPG3891	Carton Box	①
P1 〔XL〕	○	SPG3893	Carton Box	①
P1〔Other Areas〕		SPG3885	Carton Box	①
P1〔E, EH, EI〕	[K]	SPG3987	Carton Box (Black)	①
P1〔EG〕	[K]	SPG3989	Carton Box (Black)	①
P2		SPS3657	Pad, Left	①
P2 〔XL〕 Only		SPS3657-1	Pad, Left	①
P3		SPS3659	Pad, Right	①
P3 〔XL〕 Only		SPS3659-1	Pad, Right	①
P4	○	SPP699	Polyethylene Bag (Silver)	①
P4	[K]	SPP649	Polyethylene Bag (Black)	①

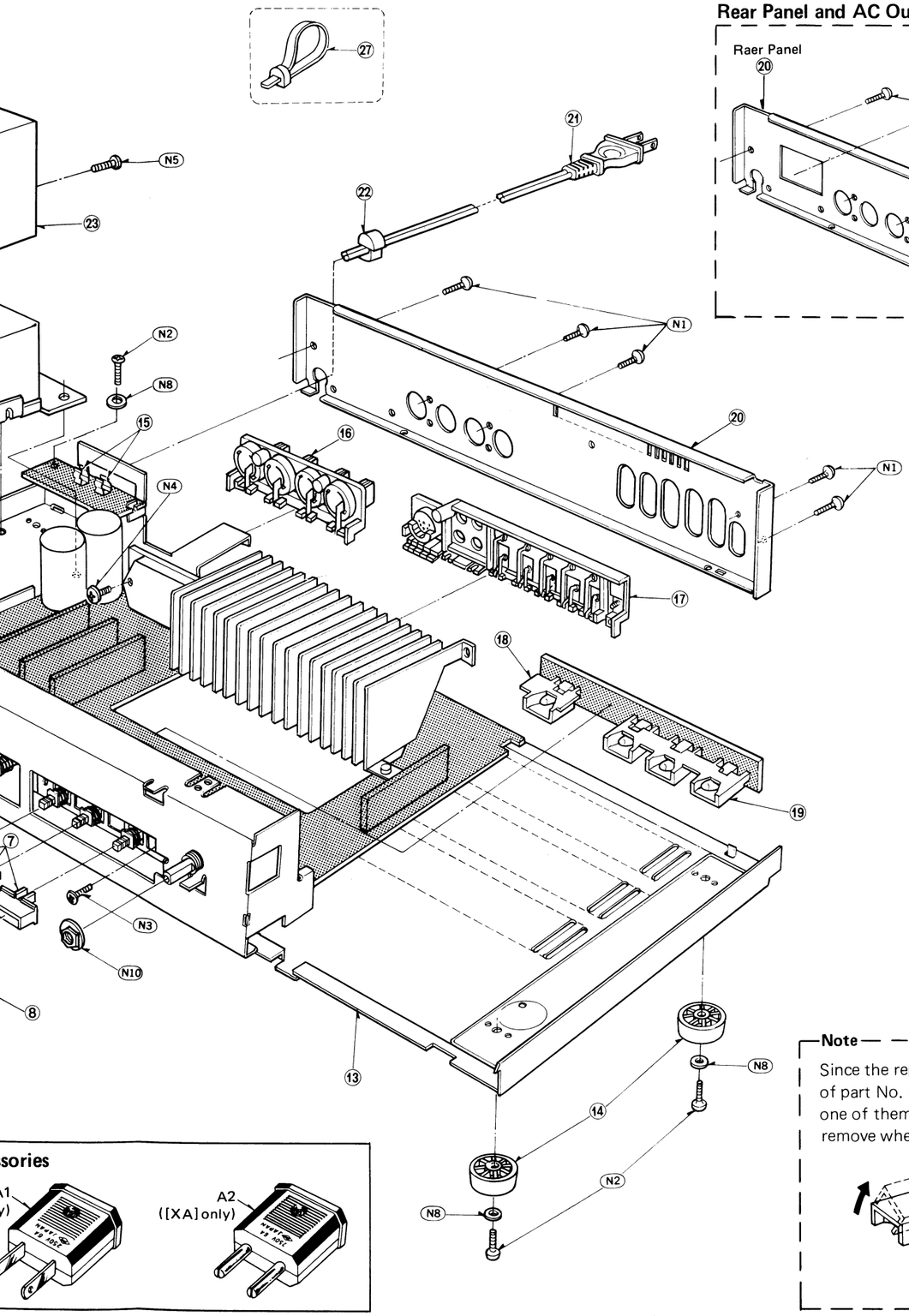
■ EXPLODED VIEW

Areas

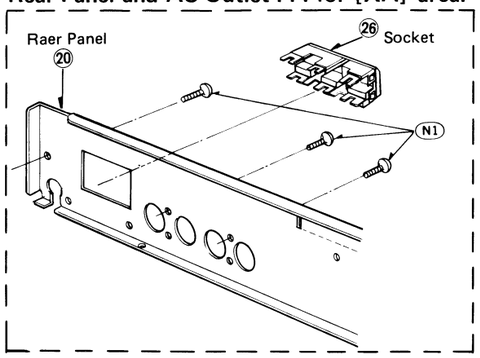
* [E] is available in Switzerland and Scandinavia.
* [EG] is available in F. R. Germany.
* [EK] is available in United Kingdom.
* [EH] is available in Holland.
* [EI] is available in Italy.
* [EB] is available in Belgium.
* [EF] is available in France.
* [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.
* [XL] is available in Australia.



● Accessories



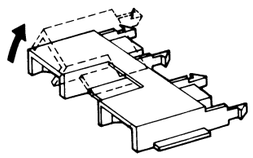
Rear Panel and AC Outlet . . . for [XA] area.



ssories

Note

Since the repair part (No. SMP323–1) of part No. ⑱ is double type, fold one of them as illustrated below to remove when installing.



■ RESISTORS & CAPACITORS

Notes:
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
3. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
4. The "**S**" mark is service standard parts and may differ from production parts.
5. Unless otherwise specified. All resistors are in OHMS (Ω) K = 1000Ω , M = 1000kΩ All capacitors are in MICROFARADS (μF) P = μμF

Numbering System of Resistor

Example

ERD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value

Resistor Type	Wattage	Tolerance
ERD : Carbon	10 : 1/8W	G : ± 2%
ERG : Metal Oxide	25 : 1/4W	J : ± 5%
ERO : Metal Film	1 : 1W	
	S1 : 1/2W	

ERD10TLJ□□□ → Chip type carbon
ERO10MKG□□□ → Chip type metal film

Numbering System of Capacitor

Example

ECKD	1H	103	Z	F	ECEA	50	M	R47	R
Type	Voltage	Value	Tolerance	Peculiarity	Type	Voltage	Peculiarity use	Value	Special use

Capacitor Type	Voltage: ECEA Type	Voltage: Others	Tolerance
ECEA : Electrolytic	1A : 10V	1H : 50V DC	C : ± 0.25pF
ECEA. . . N : Non Polar Electrolytic	1C : 16V	2H : 500V DC	J : ± 5%
ECCD : Ceramic	1E : 25V	MY : 125V AC	K : ± 10%
ECKD : Ceramic	1V : 35V	KC : 400VAC	M : ±20%
ECQM : Polyester	1H : 50V	2A : 250VAC	Z : +80%, –20%
ECQE : Polyester	1J : 63V		P : +100%, –0%
ECET : Electrolytic	50 : 50V		
	25 : 25V		
	2A : 100V		

Ref. No.	Part No.	Value
RESISTORS		
R1, 2	ERD10TLJ391U	390
R3, 4	ERO10MKG2213	221K
R5, 6	ERO10MKG5622	56.2K
R7, 8	ERD10TLJ271U	270
R9, 10	ERD10TLJ680U	68
R11, 12	ERD10TLJ184U	180K
R13, 14	ERD10TLJ123U	12K
R15, 16	ERD10TLJ563U	56K
R17, 18	ERD10TLJ102U	1K
(R21) x 2	ERD10TLJ102U	1K
(R22) x 2	ERD10TLJ124U	120K
(R23) x 2	ERD10TLJ393U	39K
(R24) x 2	ERD10TLJ823U	82K
(R25) x 2	ERD10TLJ561U	560
(R28) x 2	ERD10TLJ681U	680
R41	ERD10TLJ124U	120K
R42	ERD10TLJ563U	56K
R43	ERD10TLJ471U	470
R44	ERD10TLJ103U	10K
R45	ERD10TLJ222U	2.2K
R46	ERD10TLJ473U	47K
R48	ERD10TLJ562U	5.6K
R56	ERD10TLJ333U	33K
S R101, 102 [EG] only	ERD25FJ391	390
S R103, 104 [EG] only	ERD25FJ272	2.7K
S R105, 106 [EG] only	ERD25FJ222	2.2K
S R107. 108 [EG] only	ERD25FJ222	2.2K
S R109, 110 [EG] only	ERD25FJ222	2.2K
S R151 Exsept for [EG]	ERD25FJ100	10

Ref. No.	Part No.	Value
S **R201, 202** (Except for [EG])	ERD25FJ272	2.7K
S **R201, 202** [EG] only	ERD25FJ122	1.2K
S R203, 204	ERD25TJ223	22K
S R205, 206	ERD25TJ473	47K
S R301, 302	ERD25FJ122	1.2K
S R303, 304	ERD25TJ824	820K
S R305, 306	ERD25TJ223	22K
S R307, 308	ERD25FJ392	3.9K
S R309, 310	ERD25TJ563	56K
S R311, 312	ERD25FJ392	3.9K
⚠ S R313, 314	ERD25FJ470	47
⚠ S R315	ERD25FJ470	47
⚠ S R316	ERDS1FJ152	1.5K
S R317, 318	ERD25FJ272	2.7K
S R319, 320	ERD25FJ222	2.2K
⚠ S R321, 322	ERDS1FJ100	10
S R323, 324	ERG1ANJ331	330
S R351	ERD25FJ122	1.2K
⚠ S R401, 402	ERDS1FJ152	1.5K
S R403, 404	ERD25FJ101	100
S R405	ERG2ANJ820	82
S R406, 407	ERD25FJ271	270
S R408	ERG1ANJ152	1.5K
S R409	ERD25TJ274	270K
⚠ S R415	ERD2FCG470	47
S R421	ERD25FJ391	390

Ref. No.	Part No.	Value
CAPACITORS		
S C1, 2	ECEA50M3R3R	3.3
S C3, 4	ECCD1H101K	100P
S C5, 6	ECKD1H471KB	470P
S C7, 8	ECQM1H223JZ	0.022
S C9, 10	ECQM1H682JZ	0.0068
⚠ C11, 12	ECEA1HN010S	1
S C13, 14	ECEA1CS330	33
S (C21) x 2	ECEA50Z3R3	3.3
S (C22) x 2	ECCD1H390K	39P
S (C23) x 2	ECEA1HS100	10
S (C24) x 2	ECEA25Z4R7	4.7
S (C26) x 2	ECKD1H681KB	680P
S (C28) x 2	ECCD1H820K	82P
S (C29) x 2	ECCD1H030CC	3P
S (C30) x 2	ECCD1H330K	33P
S (C31) x 2	ECKD1H391KB	390P
S C41	ECEA1JS330	33
S C42, 43	ECEA1JS470	47
S C44	ECEA2AS3R3	3.3
S C101, 102 [EG] only	ECCD1H180KC	18P
C201, 202	ECQM1H563KV	0.056
C203, 204 (Except for [EG])	ECKD1H331KB	330P
S C301, 302	ECQM1H223JZ	0.022
S C303, 304	ECQM1H183JZ	0.018
C305, 306	ECQM1H104KV	0.1
S C307	ECEA1HS101	100
S C308	ECKD1H103ZF	0.01
S C311, 312	ECCD1H101K	100P
S C313, 314	ECCD1H101K	100P
S C315, 316	ECEA1HS470	47
⚠ C317, 318	ECEA1EN3R3S	3.3
C319, 320	ECQM1H473KV	0.047

Ref. No.	Part No.	Value
S C391, 392 (for [EG] only)	ECKD1H103ZF	0.01
C393 (for [EG] only)	ECKD1H472ZF	0.0047
C394, 395 (for [EG] only)	ECKD1H333ZF	0.033
C401, 402	ECETS40V682U	6800
S C403	ECEA1CS331	330
S C404	ECEA2AS100	10
S C407, 408	ECEA1ES101	100
S C409, 410	ECKD1H103ZF	0.01
⚠ C501 (Except for [EG] and [XA])	ECKDKC103PF	0.01

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